

Claims

1-8 Canceled

9. (New) A method for the prevention of erroneous actuator access in a multifunctional general electronic control system wherein the actuator access requirements emanate from various or different system services (1), the method comprising:

determining authorization of a system service for changing an instantaneous mode of operation of a general control system in the event of an actuator access requirement;

changing a mode of operation according to predefined rules in consideration of the instantaneous mode of operation;

reporting the current mode of operation; and

depending on the reported general mode of operation, allowing an actuator actuation only by an authorized system service and processes the actuator access requirements of the system services according to predefined arbitration rules.
10. The method according to claim 9, wherein the access requirements are recorded in a memory and sent to an access management sorted according to types of arbitration.
11. The method according to claim 9, wherein the access requirement originating from a system service and admitted to pass to an actuator is determined by a two-stage arbitration.
12. The method as claimed in any one or more of claims 11, wherein the unauthorized access requirements are determined, eliminated or rejected in a first step depending on the reported, current general mode of operation, in a second step, vertical arbitration is used to evaluate and select the authorized access requirements according to a predefined order of priority of the types of arbitration,

AP 10663

and higher priority is given to a current signal rather than to a pressure signal, while higher priority is attributed to an ON/OFF signal rather than to a current signal, and in a third step, horizontal arbitration is used to evaluate and select the access requirements determined in the second step according to the priority of the signal for driving an actuator.

13. The method according to claim 9, wherein the rights of the system services for the change of the mode of operation are written down in a read-only memory.

14. A general control system for motor vehicles comprising:

a rights management which determines authorization of a system services for changing an instantaneous mode of operation of the general control system in the event of an actuator access requirement,

a mode of operation control unit (4)

an access management (6) in that the rights management (2) in the event of an access requirement by a system service (1), brings about an adjustment or a change of the mode of operation according to predefined rules in consideration of the instantaneous general mode of operation of the general control system and reports the current mode of operation to the access management (6), and in that the access management (6), depending on the reported general mode of operation, allows an actuator actuation only by the 'authorized' system service (1) and processes the actuator access requirements of the system services (1) according to predefined arbitration rules; and

a brake system (EHB, EMB), as system services (1) emanating from which are the actuator access requirements, the basic brake functions (BBF), wheel slip control functions (such as ABS, TCS, ESP), diagnosis functions (DIAG), motor pump control systems (MPA) and interfaces (BUS) are determined and checked by the rights management (2) in connection with the access management (5).

15. The system according to claim 14, wherein at least one further system services such as customer software (CSW) or steering functions (steer) is integrated into the general system.
16. The system according claim 14, wherein a distinction is made in the mode of operation control unit between a normal mode of operation which occurs after termination of a starting phase in the absence of an error message, a starting phase mode of operation which applies until expiry of a predetermined period of time, until a minimum speed is reached for the first time, or until initial testing routines are completed, a diagnosis mode of operation , a customer software mode of operation which is initiated in a case of an actuator access requirement by an extraneous or auxiliary system, and a failsafe mode of operation indicating the presence of an error message.